EPA Region 5 Records Ctr.
315333

April 4, 1974

Division of Water Pollution Control - Field Operation Section

G. T. Bachman, EPE, Region 3-C, DWPC/FOS GTB

DEWITT COUNTY (Clinton) - Revere Copper & Brass, Inc.
Wastewater Discharges

On the above date, the writer visited the subject industry in response to a comment made by Bob Pitrat of the Clinton Sanitary District who mentioned discharges did occur to waters of the State from this particular industry. There were no records of any such discharges in our files. During this visit, Mr. R. W. Wakefield, Plant Engineer, was interviewed.

Mr. Wakefield informed that there were indeed two discharges for which they had filed for discharge permits under the 1899 Refuse Act. However, no permit applications had been filed with the Illinois EPA and I was the first contact that they had had with the Division of Water Pollution Control to his knowledge. He described the two discharges as follows:

001 - A drainage ditch whose headwaters are formed by field tile drainage has been dammed up to form a two-cell 3 MG water storage reservoir with an overflow forming the headwaters of an unnamed tributary of Coon Creek. Water is taken from the reservoir and passed through limestone filters before being utilized for cooling water (90% non-contact) which is ultimately returned to the reservoir. When the limestone filters are backwashed, this water is also returned to the reservoir. Finally, their continuous casting operation utilizes city water for cooling which is then discharged to the reservoir. The excess flow entering the reservoir from both the plant and the field tile drainage constitutes discharge 001. A 24-hour composite sampling station serves discharge 001. Flow measurement is by a simple weir. Typical discharges are on the order of 400,000 gpd according to Wakefield.

002 - A 22-inch storm drain carrying roof runoff and boiler blowdown to the same unnamed tributary formed by 001. The blowdown is not continuous and occurs once per day.

The remaining process wastewater is discharged to the Clinton Sanitary District sewers according to Wakefield with the exception of two non-overflow evaporative acid lagoons serving the plating lines and located on the northeast side of the plant. Discharges to the Sanitary District were reported to receive no pretreatment.

Mr. Wakefield provided the writer with the attached location drawings from his Federal permit application. We toured the south portion of the plant buildings where copper tubing of all sizes is produced and most of the water usage involving 001 occurs. Pots and pans are reportedly manufactured in the north buildings and process wastewater generated there is handled by the Clinton Sanitary District. We did not tour the north buildings.

The discharges were then observed and the attached pictures were taken. Samples were taken from 001 and 002 as well as upstream of 001 at the location shown by the red circle on Page 6 . This sample was collected when Wakefield reported copper had frequently been detected in the upstream drainage from the field tiles. Analysis of these three discharges revealed the following:

	001	002	Upstream
Copper	2.34	0.31	3.51
Tri-Chrome	0.13	0.00	0.19
Hex-Chrome	0.06	0.00	0.01
Iron (total)	0.28	0.69	0.38
Zinc	0.06	0.03	0.08
BOD	1	1	1
COD	12	8	16
TSS	9	34	54
TS/EC	460	620	400
pH	8.3	10.5	7.7

Note that the upstream copper concentration is indeed greater than 001 which is in itself greater than that allowed by Rule 408.

However, after Mr. Wakefield departed, the writer did some further "snooping" upstream and located a third discharge shown as 003 on Page 6. The attached pictures indicate the pollutional nature of this discharge and lab analysis confirms the presence of 360 mg/l copper, 19.75 mg/l trivalent chrome, 2.75 mg/l hexavalent chrome, 8.5 mg/l zinc, 1630 mg/l TS/EC, and a pH of 5.7. If their upstream samples are not collected above the entry point of 003, one has an explanation for the upstream copper content mentioned by Wakefield. Also it is noted that all this drainage enters the two-cell reservoir before leaving their property at

001. Unfortunately, after sampling 003, I had no bottles left to sample above 003's entry point. Had such a sample been collected, the true quality of the upstream field tile drainage could have been determined. The acreage drained by these field tiles is unknown.

As Mr. Wakefield was involved in a meeting that afternoon, I was not able to discuss discharge 003 with him but I plan to do so at a later date at which time a true upstream sample will also be collected.

Following the visit, the two discharges were entered in our data processing system as follows:

(1) Revere C & B, Inc. - CWD
EII-04-039 4244

(2) Revere C & B, Inc. - Blowdown
EII - 03 - 039 4257

Sample collector Chuck Hall has been advised to begin sampling these on a monthly basis.

Also, following the visit, a copy of a draft NPDES permit was received under the date of May 8, 1974. The draft had been sent to Revere with a 15-day response period. Effluent limitations on 001 were as follows:

To June 30, 1977 - Copper 1.1 mg/l
TSS 15 mg/l

July 1, 1977-September 30, 1977 - Copper 1.0 mg/l*
TSS 15 mg/l

*Shall not result in a violation of Illinois general stream standard of 0.02 mg/l.

Effluent limitations on 002 were as follows:

To September 30, 1976 - Temperature 160°F
TDS 750 mg/l

October 1, 1976-September 30, 1977 - Temperature **
TDS 750 mg/l

**Standard paragraph on water temperatures at representative locations in the main river.

Preliminary reports on compliance for both discharges are to be submitted by December 1, 1974. Monitoring requirements are also set forth which would probably be adequate to fulfill our Rule 501 requirements.

During the April 4 visit, I advised Wakefield that since treatment works did not exist, a certified operator was not presently required. However, if treatment works are provided to attain the level of copper set forth in the NPDES draft permit, they will be advised of our certification requirements for industrial waste treatment.

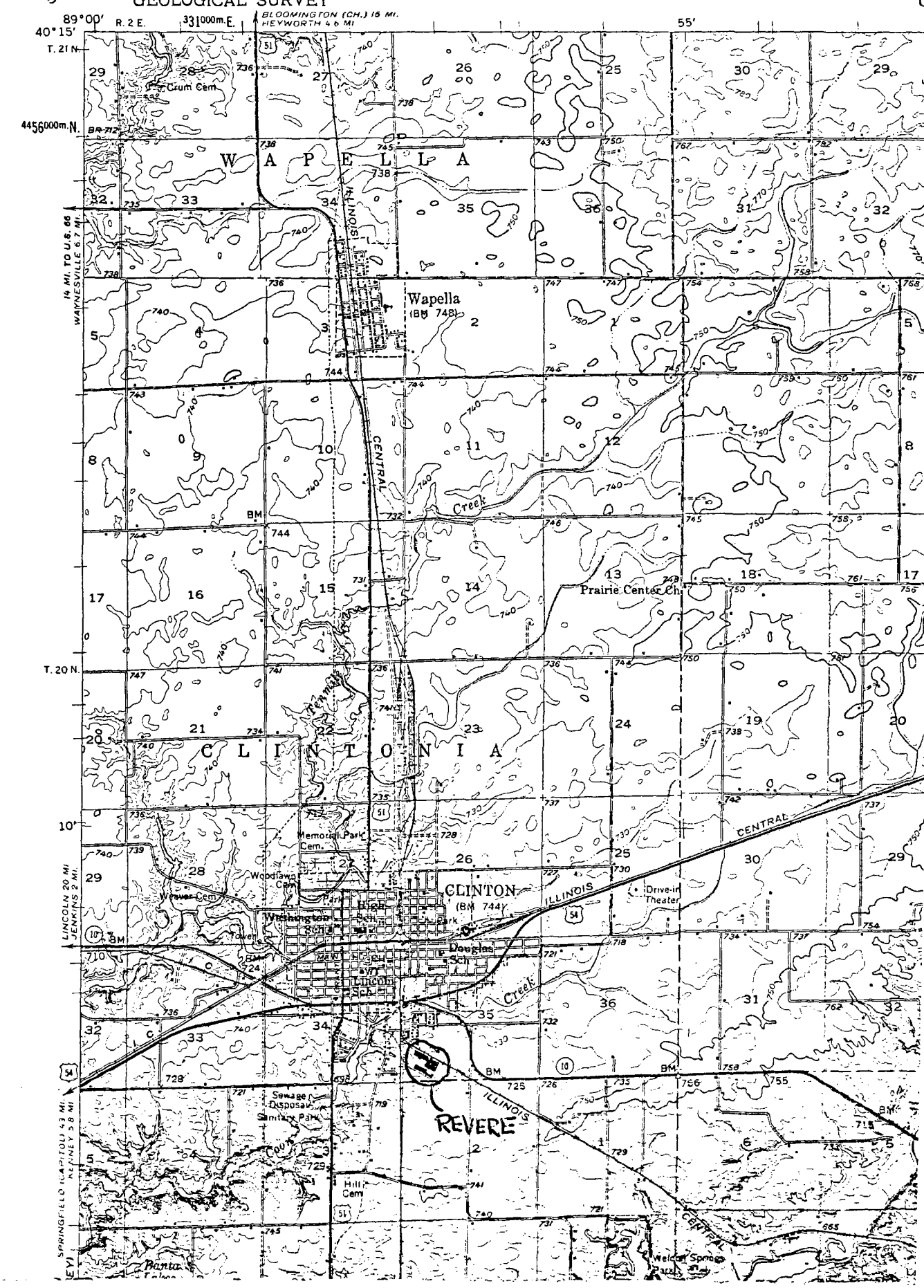
I hope to return to Revere soon to followup on the following items:

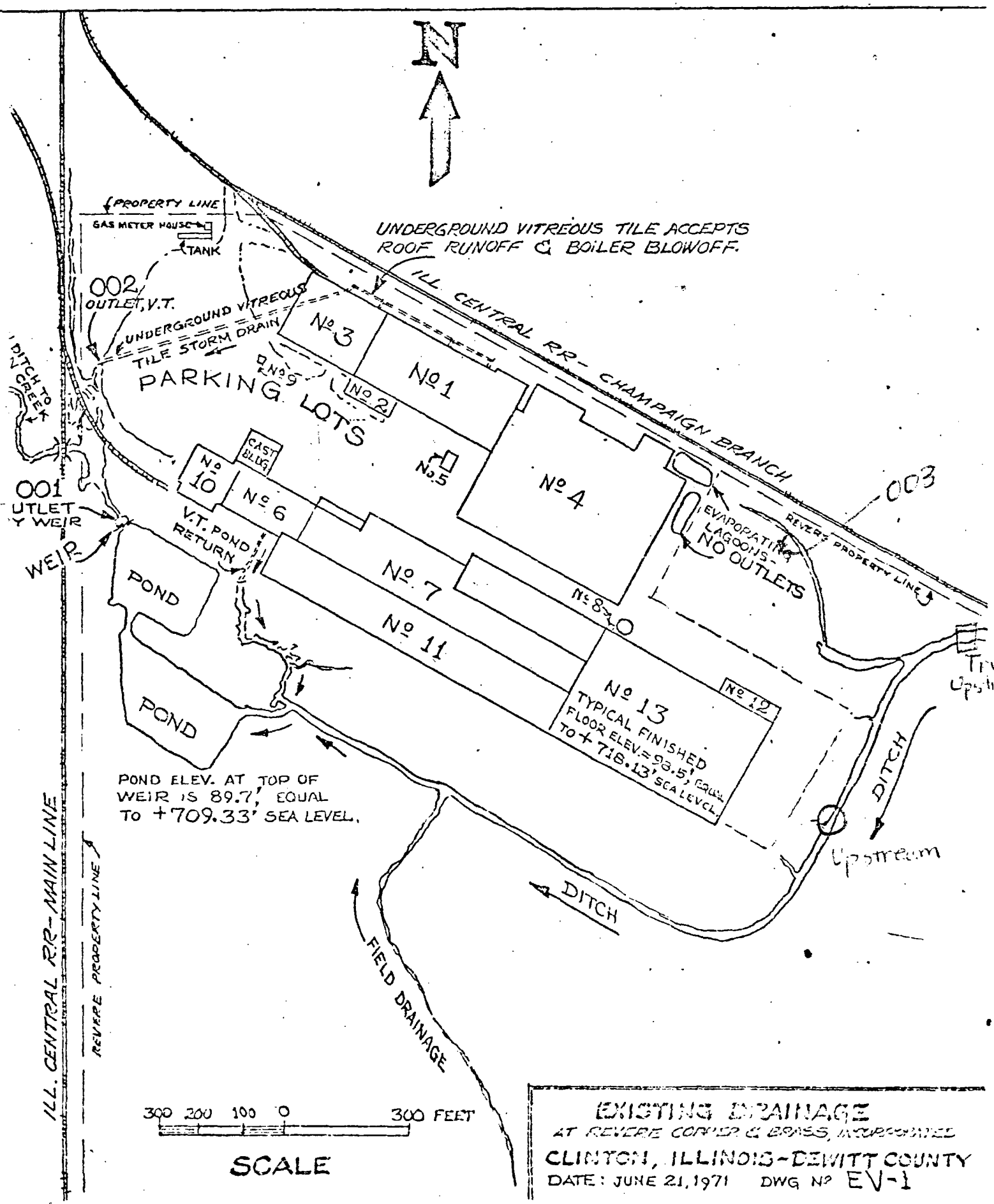
(1) Discharge 003
(2) Upstream water quality
(3) Characteristics of wastewater being discharged to the Clinton Sanitary District.
(4) Plans for compliance with NPDES permit requirements.

GTB:bh
5/29/74

cc: - K. L. Baumann, Region 3-C

ST
WILLIAM
DEPARTMENT OF
VERA
GEOLOGICAL SURV
U



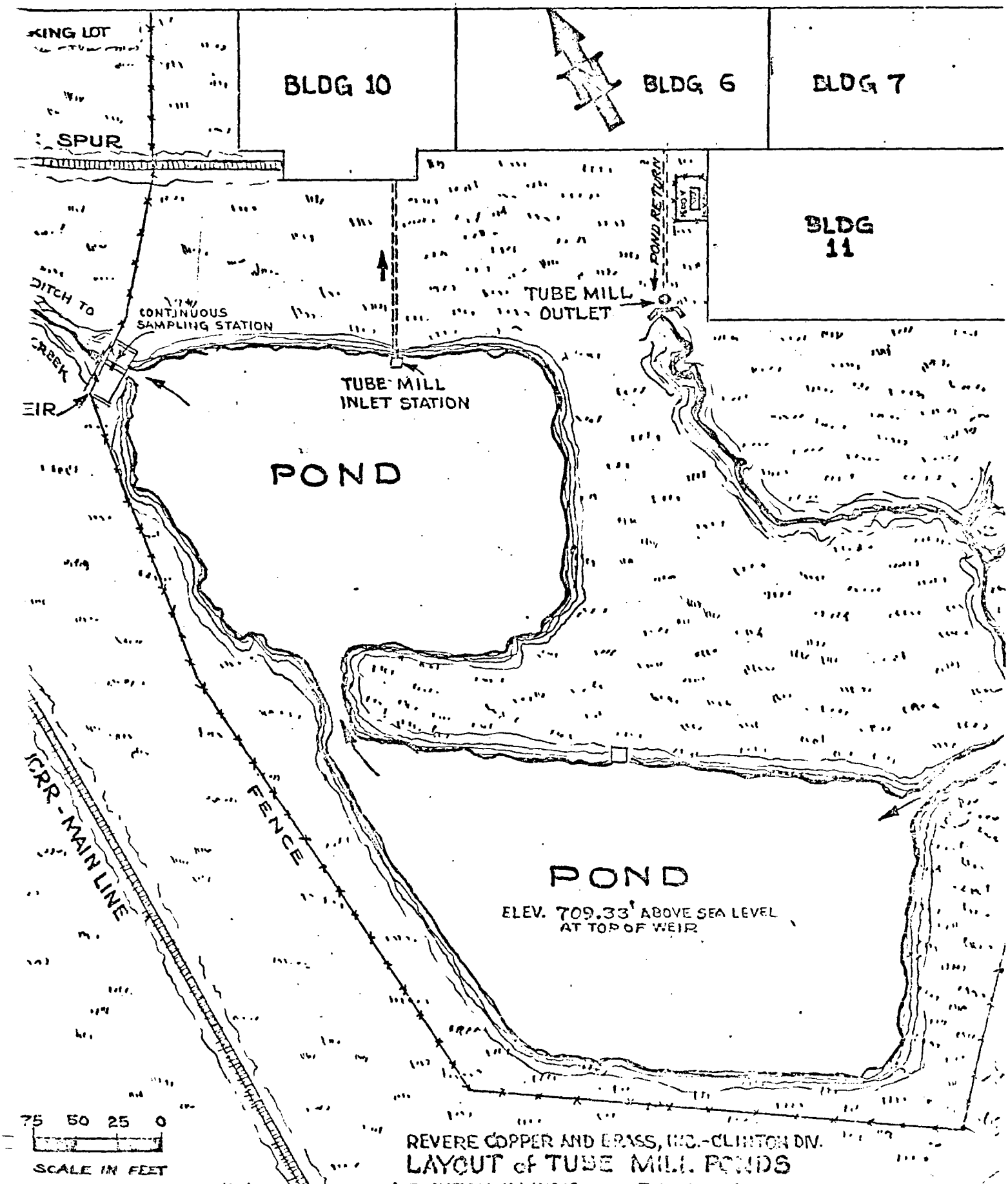


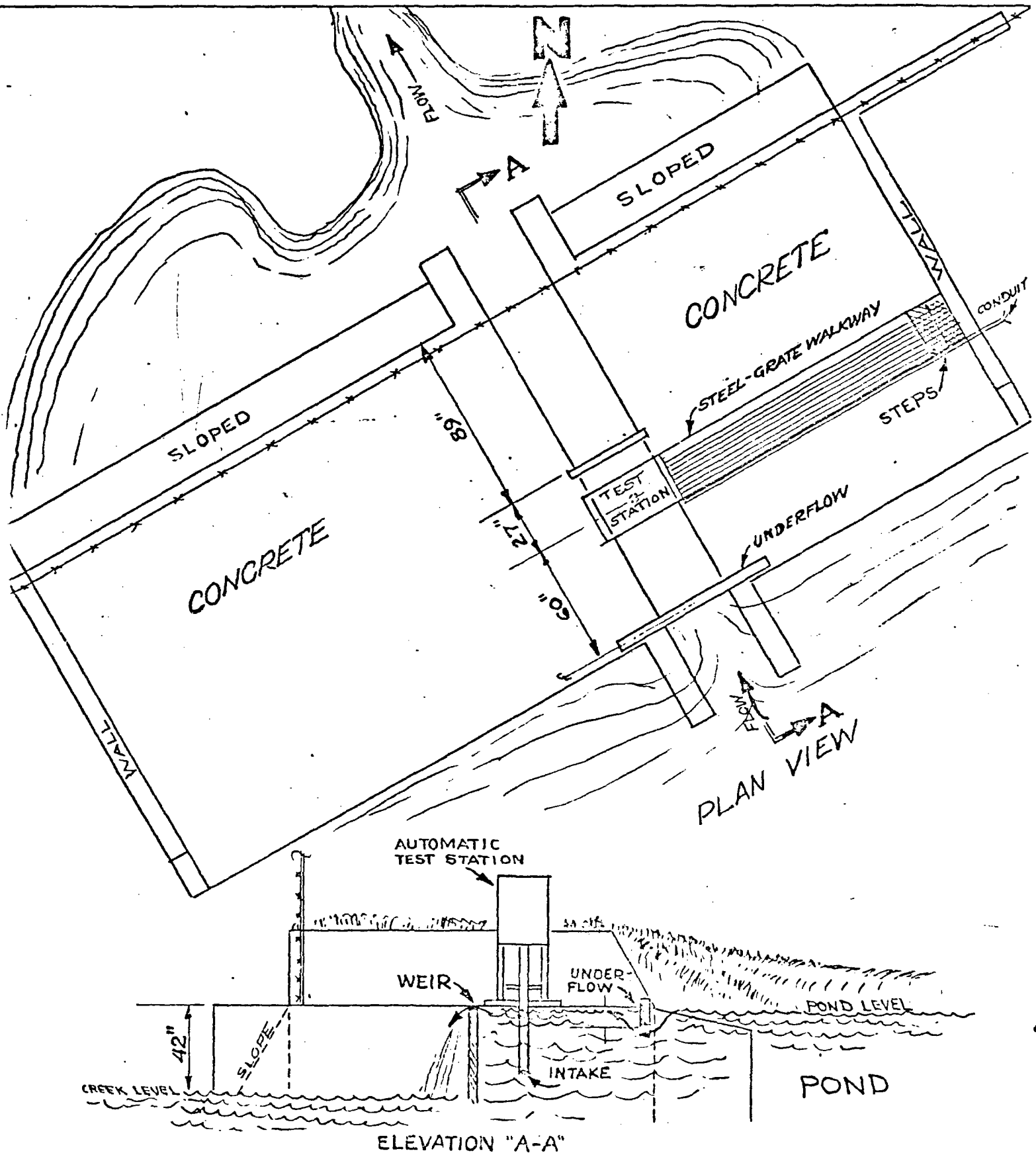
EXISTING DRAINAGE

AT REVERE CORNER & BRASS, INCORPORATED

CLINTON, ILLINOIS - DEWITT COUNTY

DATE: JUNE 21, 1971 DWG Nº EV-1


KING LOT
BLDG 10
BLDG 6
BLDG 7
SPUR
BLDG 11
POND RETURN
DITCH TO
CREEK
CONTINUOUS SAMPLING STATION
TUBE MILL OUTLET
TUBE MILL INLET STATION
EIR
POND
I.C.R.R. - MAIN LINE
FENCE
POND
ELEV. 709.33' ABOVE SEA LEVEL AT TOP OF WEIR
75 50 25 0
SCALE IN FEET
REVERE COPPER AND BRASS, INC.-CLINTON DIV.
LAYOUT of TUBE MILL PONDS
CLINTON, ILLINOIS DEWITT COUNTY



0 4 3 2 1 0

SCALE IN FEET

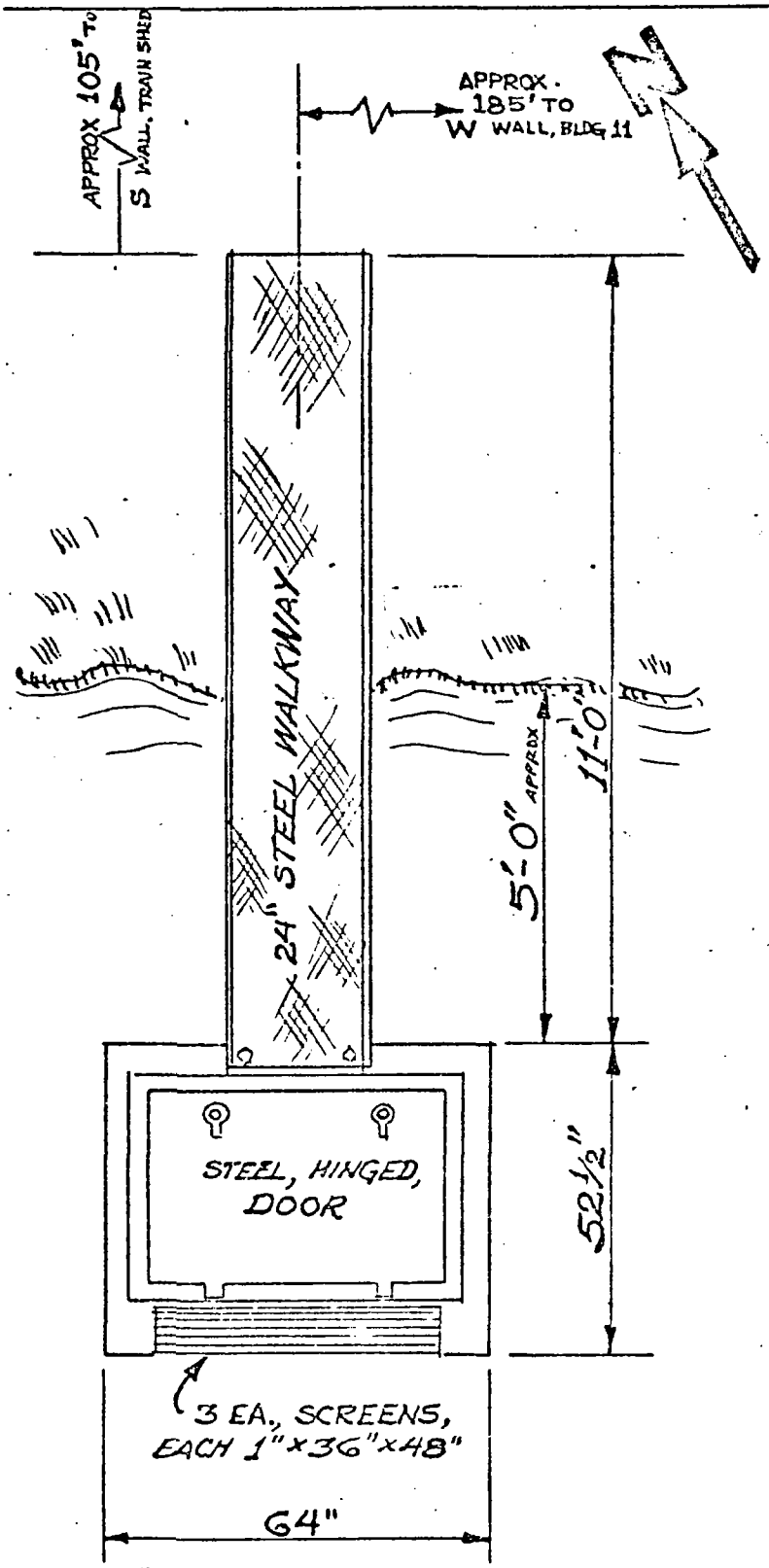
DWN. Nov. 8, 1971 -8-8

Dwg. No. EV-3

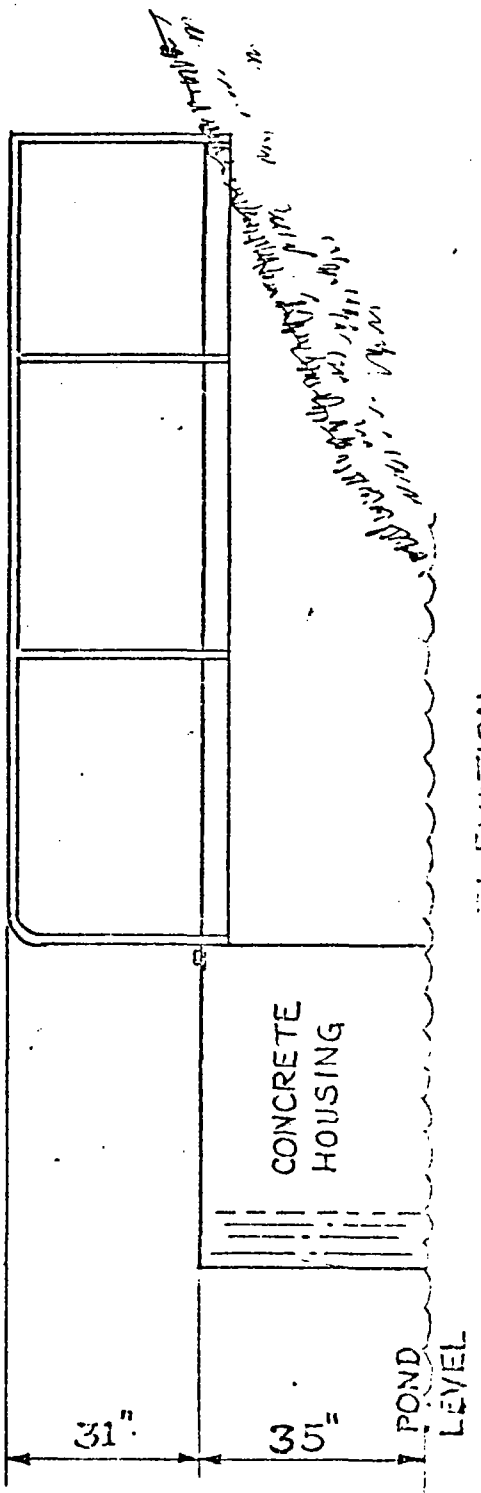
REVERE COPPER AND BRASS, INC. - CLINTON DIV.

POND SPILLWAY AND UNDERFLOW-BAFFLE & CONTINUOUS SAMPLING STATION

CLINTON, ILLINOIS DEWITT COUNTY



PLAN VIEW



ELEVATION

3 2 1 0

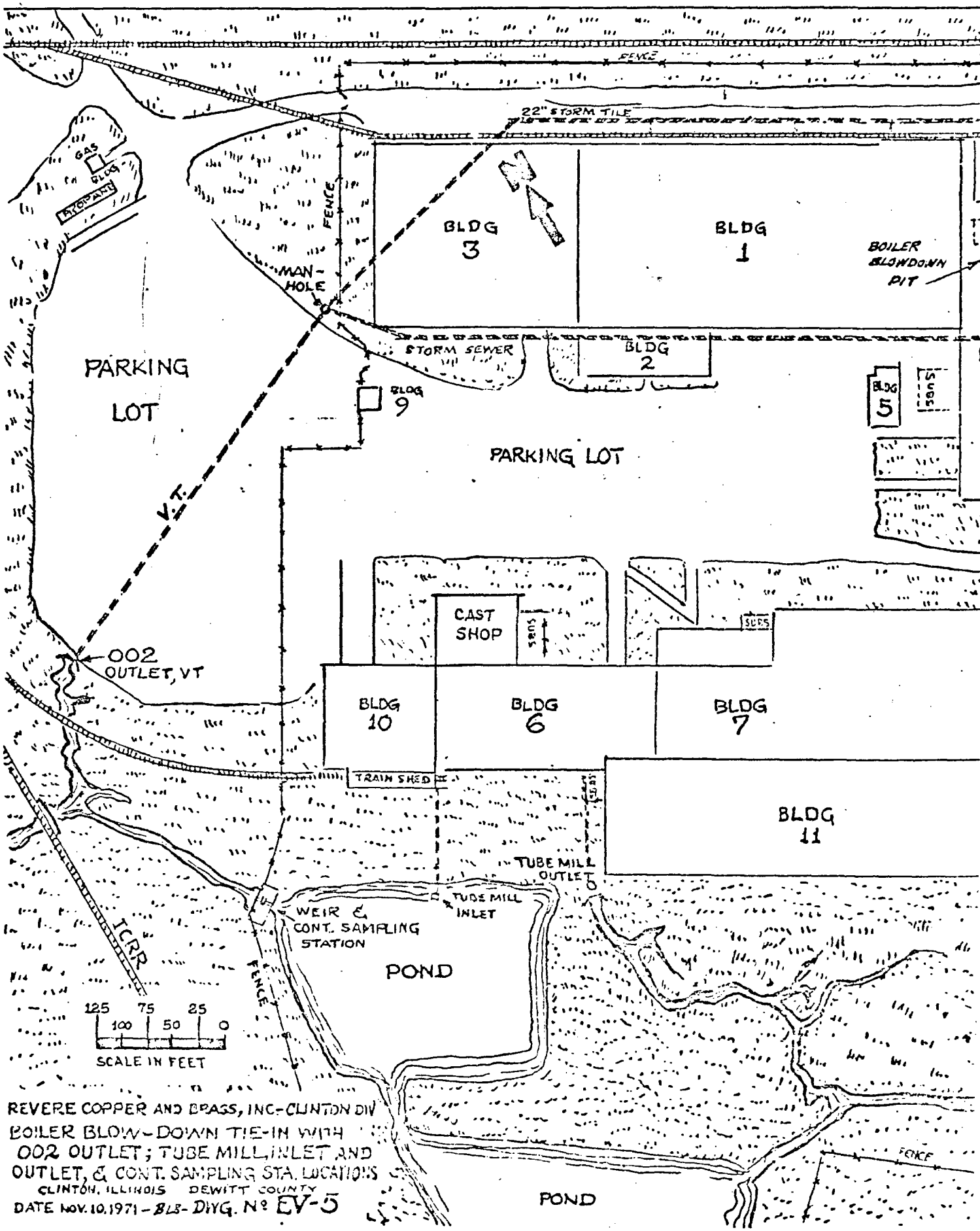
SCALE IN FEET

REVERE COPPER AND BRASS, INC. — CLINTON DIV.

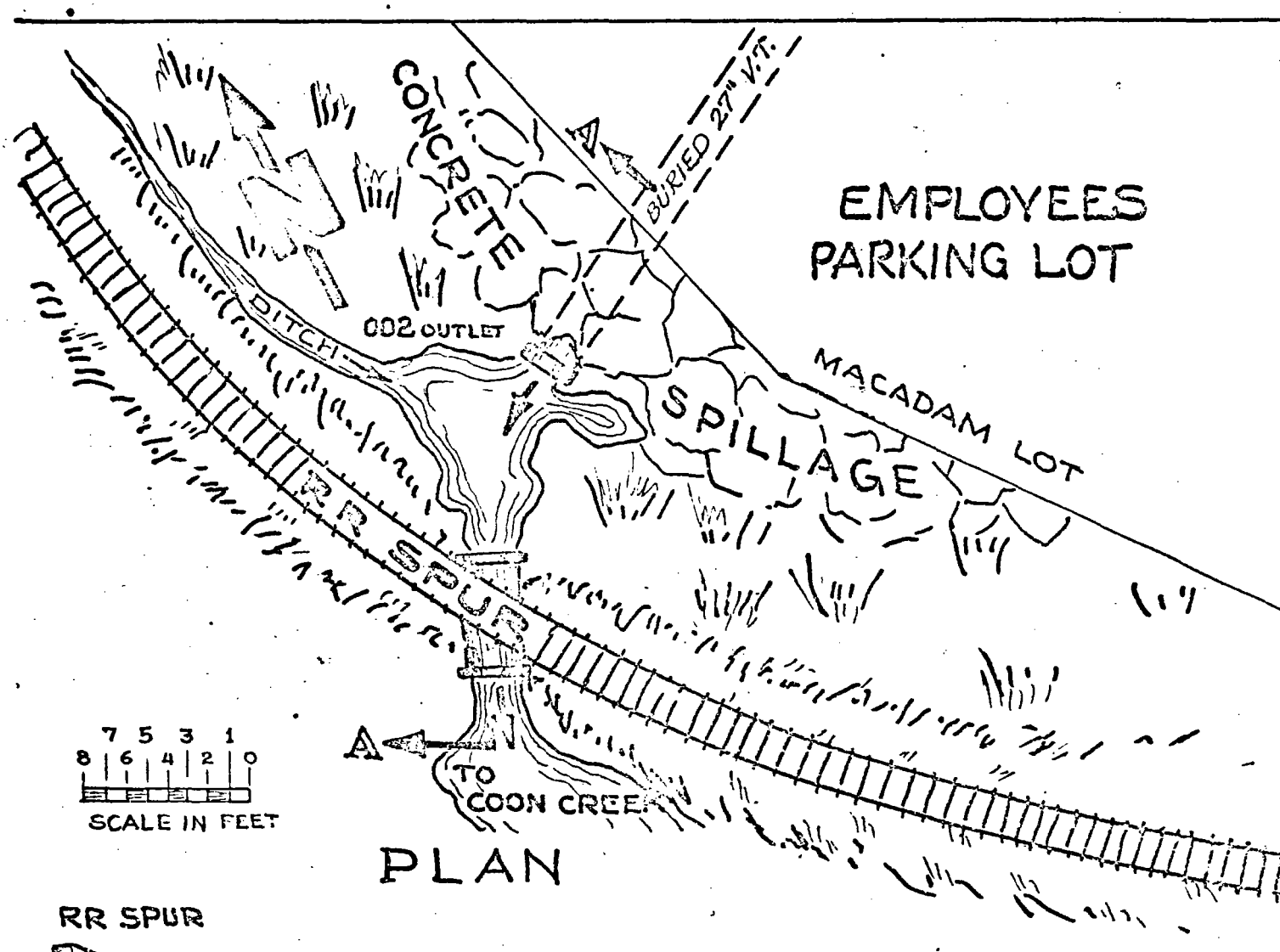
TUBE MILL INLET STATION

CLINTON, ILLINOIS DEWITT COUNTY

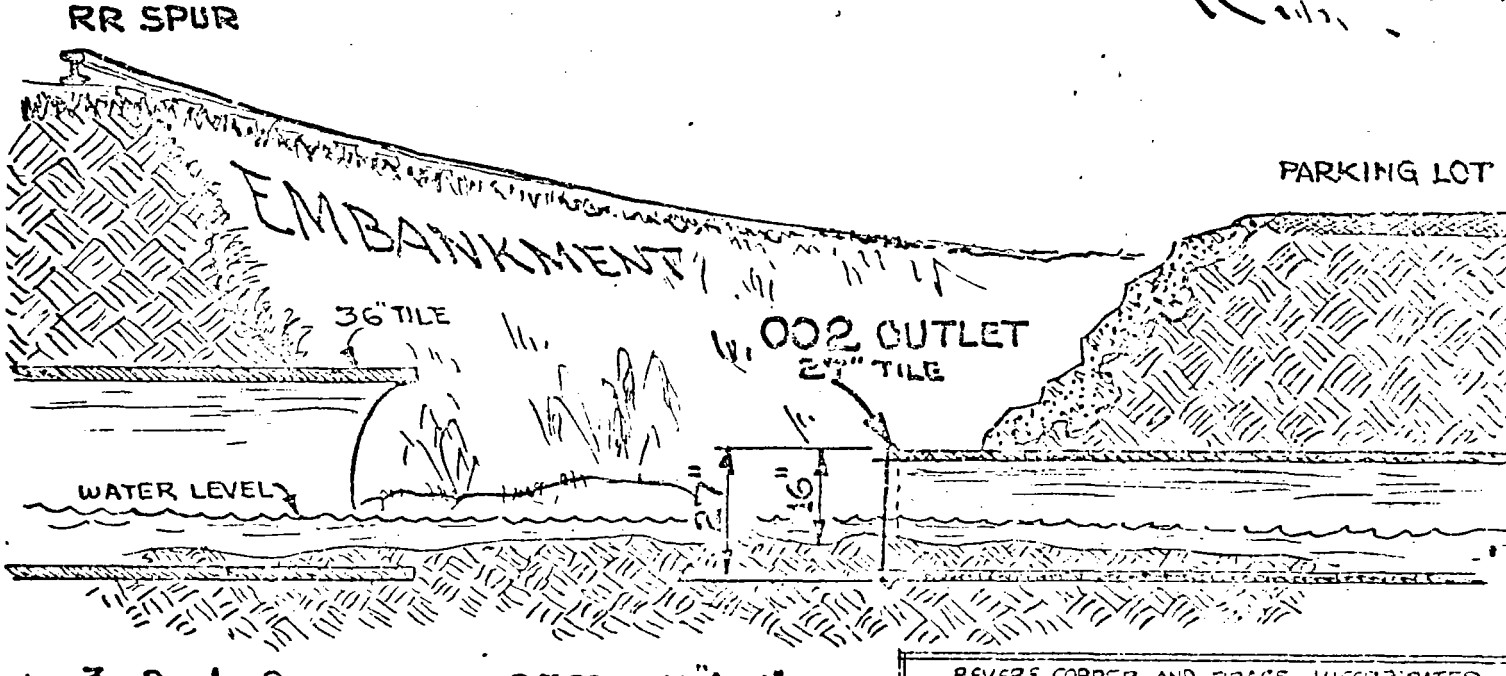
DWN. NOV. 9, 1971 · B/B — DWG NO EV-4



REVERE COPPER AND BRASS, INC-CLINTON DIV
BOILER BLOW-DOWN TIE-IN WITH
002 OUTLET; TUBE MILL INLET AND
OUTLET, & CONT. SAMPLING STA. LOCATIONS
CLINTON, ILLINOIS DEWITT COUNTY
DATE NOV. 10, 1971 - BLS- DWG. Nº EV-5



PLAN



SECTION "A-A", LOOKING N-W

REVERE COPPER AND BRASS, INCORPORATED

002 OUTLET

CLINTON, ILL. DEWITT COUNTY

DATE-DEC. 1, 1971 DWG. Nº EV-7

BB

SPECIAL ANALYSIS FORM

Time Collected 11:50 AM
Sub-Basin Champaign Office

Date Collected 4/4/74
Collector G.T. Bachman cc

Facility Name: Revere Copper & Brass Inc.
Facility Number:
File Town Clinton

Stream Name(s) Sangamon ← Salt Cr. ← Clean Cr.
Stream Code: E.I.T.

Source of Sample: (Exact Location) Overflow from cooling water reservoir #4 Corps of Eng. Permit App #001

Physical Observations, Remarks: Est. flow 100-200 gpm; clear; but, green cast to stream bottom in places

Flow	Field Dissolved Oxygen	Field pH	Field Temp.

0.00	Arsenic		Coliform/100ml	1	BOD
0.1	Barium	0*	Fecal Coliform 100 ml	12	COD
0.2	Boron		Fecal Strep 100 ml	460	TS/EC 760 sp cond
0.00	Cadmium		Algae (Total)	9	Susp. Solids
2.34	Copper	0.4	Ammonia (N)		Vol. Susp. Solids
0.13 JBH ~~0.15~~ MLC	Chromium (tri)		Organic Nitrogen (N)	8.3	pH
0.06 JBH ~~0.00~~ MLC	Chromium (hex)	8.4	Nitrate + Nitrite (N)		Turbidity (JTU)
0.28	Iron (Total)	0.04	Phosphorus (P)		Hardness
	Iron (Dissolved)		Chloride		Alkalinity
0.00	Lead	0.4	Fluoride		Total Acidity
0.19	Manganese	56	Sulfate		Free Acidity
0.0 ppb	Mercury		Cyanide		Oil
0.0	Nickel	0.8	MBAS	Cl₂ - abs	Other (Specify)
	Selenium		Phenol (ppb)		
0.00	Silver				
0.06	Zinc				

Cr total 0.19

*0/10 ml

Sample Meets IEPA Preservation Standards
☒ Yes
☐ No

Transported by: Bachman
Received by:
Transported by:
Received by:

3°
FOR LAB USE ONLY
Lab Number: B110103 Rec'd by: [signature]
Date sample rec'd: APR 4 1974 Time: 5pm
Date analysis completed: APR 24 1974
Date results forwarded: APR 25 1974
Total Tests requested: 26 Tests run: 26
Lab Section: Champ. Supervisor: [signature]

SPECIAL ANALYSIS FORM

Time Collected 1:10 PM

Sub-Basin Champaign Office

Date Collected 4/4/74

Collector E. T. Bachman cc

Facility Name: Revere Copper & Brass, Inc

Facility Number:

File Town Clinton

Stream Name(s) Sangamon ← Salt Cr ← Coon Cr.

Stream Code: EIT

Source of Sample: (Exact Location)

(#5) Upstream of reservoir & east side of plant where all flow is reportedly from Field tiles

Physical Observations, Remarks: Clear; ditch had been dredged recently

Flow	Field Dissolved Oxygen	Field pH	Field Temp.

0.00	Arsenic		Coliform/100ml	1	BOD
0.1	Barium	0*	Fecal Coliform 100 ml	16	COD
0.2	Boron		Fecal Strep 100 ml	400	TS/EC 670 sp cond
0.00	Cadmium		Algae (Total) /ml	54	Susp. Solids
3.51	Copper	0.2	Ammonia (N)		Vol. Susp. Solids
0.19	Chromium (tri)		Organic Nitrogen (N)	7.7	pH (units)
0.01	Chromium (hex)	8.8	Nitrate + Nitrite (N)		Turbidity (JTU)
0.38	Iron (Total)	0.05	Phosphorus (P)		Hardness
	Iron (Dissolved)		Chloride		Alkalinity
0.00	Lead	0.3	Fluoride		Total Acidity
0.05	Manganese	57	Sulfate		Free Acidity
0.0	Mercury (ppb)		Cyanide		Oil
0.0	Nickel	1.0	MBAS	Chabot	Other (Specify)
	Selenium		Phenol (ppb)		
0.00	Silver	*0/10 ml			
0.08	Zinc				

Sample Meets IEPA Preservation Standards
☒ Yes
☐ No

Results in mg/l unless otherwise noted.

Cr Total 0.20

Transported by: E. Bachman

Received by:

Transported by:

Received by:

FOR LAB USE ONLY

Lab Number: B110104 Rec'd by

Date sample rec'd: APR 4 1974 Time: 5pm

Date analysis completed: APR 24 1974

Date results forwarded: APR 25 1974

Total Tests requested: 26 Tests run: 26

Lab Section: Chemistry Supervisor: Schmidt

3/73

SPECIAL ANALYSIS FORM

Time Collected 1:30 PM

Sub-Basin Champaign Office cc

Date Collected 4/4/74

Collector S.T. Bachman

Facility Name: Revere Copper & Brass, Inc. Facility Number:

File Town Clinton

Stream Name(s) Sangamon ← Salt Cr. ← Coon Cr.

Stream Code: EII

Source of Sample: (Exact Location) Storm drain at SE corner of parking lot carrying roof runoff + border blowoff; Corps of Engineers Permit App. #002 (#6)

Physical Observations, Remarks: Est. flow ~5gpm; milky appearance

Flow	Field Dissolved Oxygen	Field pH	Field Temp.

0.01	Arsenic		Coliform/100ml	1	BOD
0.0	Barium		Fecal Coliform 100 ml	8	COD
0.1 0.9 TNTC	Boron		Fecal Strep 100 ml	620	TS/EC 1040 cp. cor
0.00	Cadmium		Algae (Total) /ml	34	Susp. Solids
0.31	Copper	0.2	Ammonia (N)		Vol. Susp. Solids
0.00	Chromium (tri)		Organic Nitrogen (N)	10.5	pH (units)
0.00	Chromium (hex)	1.8	Nitrate + Nitrite (N)		Turbidity (JTU)
0.69	Iron (Total)	0.01	Phosphorus (P)	74	Hardness
	Iron (Dissolved)		Chloride		Alkalinity
0.00	Lead	0.7	Fluoride		Total Acidity
0.01	Manganese	105	Sulfate		Free Acidity
0.0	Mercury (ppb)		Cyanide		Oil
0.0	Nickel	0.5	MBAS	Chalket	Other (Specify)
	Selenium		Phenol (ppb)		
0.00	Silver				
0.03	Zinc				

Sample Meets EPA Preservation Standards
☒ Yes
☐ No

Results in mg/l unless otherwise noted.

Cr Total
0.00

Transported by: Bachman

Received by:

Transported by:

Received by:

3°

FOR LAB USE ONLY

Lab Number: B14 0105 Rec'd by

Date sample rec'd: APR 4 1974 Time: 2 pm

Date analysis completed: APR 24 1974

Date results forwarded: APR 25 1974

Total Tests requested: 26 Tests run 26

Lab Section: Chem. Supervisor: Schmidt

3/73

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected 2:45 PM | Sub-Basin Champaign Office

Date Collected 4/4/74 | Collector G.T. Bachman cc

Facility Name: Revere Copper & Brass, Inc. | Facility Number: | File Town Clinton

Stream Name(s) Sangamon ← Salt Cr ← Coon Cr. | Stream Code: EII

Source of Sample: (Exact Location) Ditch @ NE side of plant above reservoir and west of field tiles making up flow in main ditch (#7)

Physical Observations, Remarks: Green liquid entering ditch @ ~ 3-5 gpm and causing discoloration

Flow	Field Dissolved Oxygen	Field pH	Field Temp.

0.00	Arsenic		Coliform/100ml	1	BOD
0.1	Barium		Fecal Coliform 100 ml	4	COD
0.5	Boron		Fecal Strep 100 ml	1630	TS/EC 2710 µmho/cm
0.01	Cadmium		Algae (Total) /ml	104	Susp.Solids
360. F.J.	Copper	2.3	Ammonia (N)		Vol.Susp.Solids
19.75	Chromium (tri)		Organic Nitrogen (N)	5.7	pH (units)
2.75	Chromium (hex)	220.	Nitrate + Nitrite (N)		Turbidity (JTU)
0.21	Iron (Total)	0.05	Phosphorus (P)		Hardness
	Iron (Dissolved)		Chloride		Alkalinity
0.00	Lead	0.4	Fluoride		Total Acidity
1.11	Manganese	720	Sulfate		Free Acidity
0.0	Mercury (ppb)		Cyanide	2652	Oil & Grease
0.2	Nickel	12	MBAS	Clarabet	Other (Specify)
	Selenium		Phenol (ppb)		
0.00	Silver				
8.5	Zinc				

Sample Meets EPA Preservation Standards: ☒ Yes ☐ No

Results in mg/l unless otherwise noted.

Cu Total 22.50

Transported by: Bachman

Received by:

Transported by:

Received by:

3°

FOR LAB USE ONLY

Lab Number: B110106 Rec'd by Langforth

Date sample rec'd: APR 4 1974 Time: 5 pm

Date analysis completed: MAY 20 1974

Date results forwarded: MAY 21 1974

Total Tests requested: 26 Tests run: 26

Lab Section Chem. Supervisor Schmidt

3/73